PROC. ENTOMOL. SOC. WASH.
83(4), 1981, pp. 620–624

THE IDENTITY OF NEARCTIC *CEROCEPHALA* WESTWOOD (HYMENOPTERA: PTEROMALIDAE)

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Abstract.—The name *Cerocephala rufa* (of American authors) has been incorrectly applied to a Nearctic species that is actually the Palearctic species *C. eccoptogastri* Masi. The Nearctic species *C. dubarae* Wallace is synonymized with *C. rufa* (Walker). Both *rufa* and *eccoptogastri* are now recognized as Holarctic. A key is given for both species, their geographic distribution is summarized, and known hosts are listed. *Cerocephala eccoptogastri* is associated with Scolytidae and *C. rufa* with Anobiidae. Both may be primary parasites or they may be secondarily associated with Braconidae.

Cerocephala Westwood is one of five Nearctic genera currently placed in the Cerocephalinae (Burks, 1979). All members of this subfamily parasitize woodboring beetles and/or possibly their parasites. Keys to world genera of the subfamily were given by Gahan (1946) and Hedqvist (1969). *Cerocephala* was first reported in the Nearctic by Wallace (1959) who described the species *dubarae* as a parasite of the Eastern Death Watch Beetle (*Hadrobregmus carinatus* (Say): Anobiidae). Burks (1979) later added the Palearctic species *C. rufa* (Walker) to the Nearctic faunal list. This was cited as a secondary parasite of *Dendrosoter* sp. and *Spathius* sp. (Braconidae) through Scolytidae. The purpose of this paper is to clarify the nomenclature of the two Nearctic species of this genus, both of which have been misidentified. In addition a key and illustrations are given to aid in identification, and a lectotype is chosen for the Holaractic species *C. eccoptogastri* Masi.

Cerocephala eccoptogastri Masi
Figs. 1–4

Cerocephala eccoptogastri Masi, 1921: 189–193.
Cerocephala sp. indet.: Graham, 1969: 59, 61.
Cerocephala rufa: Burks, 1979: 781 (misidentification)

Cerocephala eccoptogastri is the correct name for the taxon that has been called *C. rufa* in the New World. Burks (1979) reported *C. rufa* for the first time from the Nearctic. I subsequently identified this species as *rufa* until Marcus Graham suggested in a letter to A. Hajek that the species was not *rufa* but might be *C. eccoptogastri* or an undescribed species. Study of six female and two male syntype specimens of Masi's species convinced me that they are identical to the Nearctic species being called *C. rufa*. Graham (1969: 59, 61) mentioned the possibility that an indeterminate species known to him from material in the British Museum (Natural History) might also be *eccoptogastri*. Boucek (*in litt.*) has confirmed this as the correct name.

Identification.—In addition to characters mentioned in the key at the end of this paper, female *eccoptogastri* may be separated from female *rufa* by the following character: In *eccoptogastri* the lower facial process (Fig. 1, lfp) projects farther forward than the upper facial process (ufp) so that both may be seen in dorsal view (Fig. 2), whereas in *rufa* the upper process projects farther forward than the lower which is not visible from above (Fig. 6). In male *rufa* the processes are about equally weakly developed so that from above the appearance is of only one process (Fig. 8) as in the female. Both can be seen from above for male *eccoptogastri* (Fig. 4).

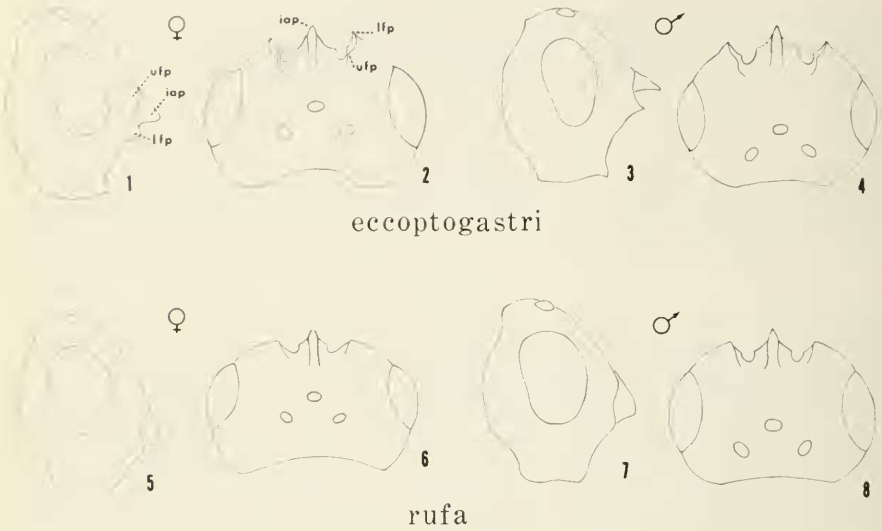
Type-material.—Described from 7 ♀ and 4 ♂. I take this opportunity to designate as LECTOTYPE the female marked with a black dot inside a black ring. This is the lowermost of 2 card-mounted specimens on a single pin bearing the data: "Bengasi, 111-1916, Zanon, cotype." Specimens in the Museo Civico di Storia Naturale "G. Doria," Genova.

Distribution.—In the Nearctic, *eccoptogastri* has been reported from Ohio, Michigan, and Colorado (Burks, 1979, as *rufa*). I have confirmed these records based on specimens in the U.S. National Museum and add the new state record of California. The Palearctic distribution is Libya (Bengasi), Egypt, and Spain (Hedqvist, 1969), to which is added "Macedonia," Greece, and France (based upon my determination of USNM material), Turkey and Palestine (Graham, 1969: 61, indeterminate species), and Israel (Boucek, *in litt.*).

Hosts.—Nearctic hosts for this species include *Scolytus multistriatus* (Marsham) (Scolytidae) and *Dendrosoter* and *Spathius* spp. (Braconidae). Palearctic records include *Scolytus ?rugulosus* (Ratzeburg) and *S. koenigi* Schevyrew (Hedqvist, 1969). *Cerocephala eccoptogastri* apparently may act as both a primary and secondary parasite through Scolytidae.

Cerocephala rufa (Walker)
Figs. 5–8

Epimacrus rufus Walker, 1833: 369–370.
Cerocephala dubarae Wallace, 1959: 84–86. NEW SYNONYMY.



Figs. 1–8. Heads of *Cerocephala* species. 1, 3, 5, 7, Lateral view. 2, 4, 6, 8, Dorsal view. (ufp = upper facial process; lfp = lower facial process; iap = interantennal projection.)

Wallace (1959) compared his new species *dubarae* with Gahan's published concept (1946) of *Cerocephala cornigera* Westwood. According to Graham (1969: 60) the specimen in the Hope Museum which formed the basis of Gahan's concept of *cornigera* is actually a male of *rufa*. Gahan's published description of *cornigera* (1946: 358), however, was not based so much on the Hope specimen of *rufa* as on notes on the type of *Sciatheras trichotus* Ratzeburg, a synonym of *cornigera*. Thus Gahan's description of *cornigera* is probably a combination of both *rufa* and *cornigera*. Confounding the problem even further, however, is that Gahan's illustrations (1946: Pl. 47, fig. 4, 4a and Pl. 48, fig. 3) are almost certainly of *eccoptogastri*. This is based on the following two factors: The drawings were done by A. Cushman in Washington, and because Gahan refers only to "notes" he had taken, it is not likely that he borrowed any of the specimens he had seen in Europe; Gahan (1946: 359) determined two specimens from Hyeres, France as *cornigera* and stated that these were the only specimens of this species in the U.S. National Museum. These specimens, determined by Gahan as *cornigera* and presumably the only specimens available for illustration by Cushman, are actually *eccoptogastri* based on comparison with the type material of Masi. The basic problem, then, is that Gahan's concept of *cornigera* was based on notes and illustrations that involved at least two pos-

sible misidentifications (namely *cornigera* for *rufa* and *eccoptogastri*). Wallace (1959) compared his new species *dubarae* against Gahan's illustrations of *cornigera* (i.e., actually *eccoptogastri*). I have seen two female and one male paratypes of *dubarae* as well as the type of *rufa* and can find no basis for separation. A further basis for combining these names is that both are associated with Anobiidae, whereas *eccoptogastri* and *cornigera* appear to be associated with Scolytidae.

Identification.—See key and identification section for *eccoptogastri*.

Type-material.—*Epimacrus rufus* Walker, described from 1 ♀ (see Graham, 1969: 60) in the G. T. Rudd collection, Yorkshire Museum, York, England. *Cerocephala dubarae* Wallace, described from 5 ♀ and 2 ♂, the holotype, allotype and 1 ♀ paratype in the Carnegie Museum, Pittsburgh, Pennsylvania; 2 ♀ paratypes and 1 ♂ paratype in the U.S. National Museum, Washington, D.C.; 1 ♀ paratype, Canadian National Collection, Ottawa, Canada.

Distribution.—In the Nearctic, *rufa* is known only from Pennsylvania. In the Palearctic it is known from Britain, Czechoslovakia, and Sweden (Graham, 1969; Hedqvist, 1969).

Hosts.—In the Nearctic, this species is known from *Hadrobregmus carinatus* (Anobiidae). In the Palearctic, *rufa* has been reared from *Anobium pertinax* Fabricius and *A. punctatum* (DeGeer) (Anobiidae), possibly as a secondary through the braconid *Spathius exarator* (Linnaeus) (Graham, 1969).

Key to Nearctic *Cerocephala*

- In profile (Figs. 1, 3), lower facial process (lfp) produced as a denticle, carinae laterad of clypeus distinct causing ventral anterior corner of head to appear denticulate, interantennal projection acute ..... *eccoptogastri* Masi
- In profile (Figs. 5, 7), lower facial process obscure or rounded, clypeus without carinae laterad and head rounded at ventral anterior corner, interantennal projection obtuse ..... *rufa* (Walker)

Acknowledgments

I thank A. E. Hajek (Division of Biological Control, University of California, Albany) for providing reared specimens of *C. eccoptogastri*; M. W. R. de V. Graham (Hope Entomological Collection, Oxford) for pointing out the discrepancy in identification of *C. rufa* and for loaning specimens of *C. rufa* and *C. cornigera* Westwood; R. Poggi (Museo Civico Di Storia Naturale "G. Doria," Genova) who kindly lent to me Masi's syntypes of *C. eccoptogastri*; and Z. Boucek (Commonwealth Institute of Entomology, London) for constructive comments on this manuscript.

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